

Info Gap: Distances in the Solar System

**Problem Card 1**

Estimate:

1. How many Earths side by side would have the same width as the Sun?
2. How many Earths would it take to equal the mass of the Sun?

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**Data Card 1**

- The distance from Earth to the Sun is approximately  $1.496 \times 10^8$  km.
- The diameter of the Sun is  $1.392 \times 10^6$  km.
- The diameter of Earth is  $1.28 \times 10^4$  km.
- The mass of the Sun is  $1.989 \times 10^{30}$  kg.
- The mass of Earth is  $5.98 \times 10^{24}$  kg.

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**Problem Card 2**

Estimate:

1. How many times as far away from Earth is the planet Neptune compared to Venus?
2. How many copies of the planet Mercury would it take to equal the mass of Neptune?

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**Data Card 2**

- The average distance from Earth . . .
  - to Mercury is  $7.73 \times 10^7$  km.
  - to Venus is  $4 \times 10^7$  km.
  - to Neptune is  $4.3 \times 10^9$  km.
- The mass of Mercury is  $3.3 \times 10^{23}$  kg.
- The mass of Venus is  $4.87 \times 10^{24}$  kg.
- The mass of Neptune is  $1.024 \times 10^{26}$  kg.

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